LIST OF CONTENTS

VOLUME 73 NUMBER 1

LETTER TO NEUROSCIENCE

S. A. Eaton and **T. E. Salt** — Role of *N*-methyl-D-aspartate and metabotropic glutamate receptors in corticothalamic excitatory postsynaptic potentials *in vivo* — 1

COMMENTARY

G. D. S. Hirst, J. K. Choate, H. M. Cousins, F. R. Edwards and **M. F. Klemm** — Transmission by post-ganglionic axons of the autonomic nervous system: the importance of the specialized neuroeffector junction — 7

RESEARCH PAPERS

T. Ichinose and **T. Murakoshi** — Electrophysiological elucidation of pathways of intrinsic horizontal connections in rat visual cortex — 25

W. Chen, J.-J. Zhang, G.-Y. Hu and **C.-P. Wu** — Electrophysiological and morphological properties of pyramidal and nonpyramidal neurons in the cat motor cortex *in vitro* — 39

W. Chen, J.-J. Zhang, G.-Y. Hu and **C.-P. Wu** — Different mechanisms underlying the repolarization of narrow and wide action potentials in pyramidal cells and interneurons of cat motor cortex — 57

J. Yang and **I. Uchida** — Mechanisms of etomidate potentiation of $GABA_A$ receptor-gated currents in cultured postnatal hippocampal neurons — 69

G. L. Wenk and **S. L. Mobley** — Choline acetyltransferase activity and vesamicol binding in Rett syndrome and in rats with nucleus basalis lesions — 79

P. Correia-de-Sá and **J. A. Ribeiro** — Adenosine uptake and deamination regulate tonic A_{2a} receptor facilitation of evoked [^{3}H]acetylcholine release from the rat motor nerve terminals — 85

G. V. Wallenstein — Adenosinic modulation of 7–14 Hz spindle rhythms in interconnected thalamic relay and nucleus reticularis neurons — 93

J. P. Huston, H. L. Haas, F. Boix, M. Pfister, U. Decking, J. Schrader and **R. K. W. Schwarting** — Extracellular adenosine levels in neostriatum and hippocampus during rest and activity periods of rats — 99

M. Garcia-Munoz, P. Patino, E. Masliah, S. J. Young and **P. M. Groves** — Glutamate-dependent long-term presynaptic changes in corticostriatal excitability — 109

W. Hauber — Impairments of movement initiation and execution induced by a blockade of dopamine D_1 or D_2 receptors are reversed by a blockade of *N*-methyl-D-aspartate receptors — 121

C. Le Moine and **B. Bloch** — Expression of the D_3 dopamine receptor in peptidergic neurons of the nucleus accumbens: comparison with the D_1 and D_2 dopamine receptors — 131

D. N. Abrous, S. Desjardins, B. Sorin, D. Hancock, M. Le. Moal and **J.-P. Herman** — Changes in striatal immediate early gene expression following neonatal dopaminergic lesion and effects of intrastriatal dopaminergic transplants — 145

G. Gopinath, V. Sable, K. Sailaja and **P. N. Tandon** — Cell surface molecules (NCAM and L1) in intrastriatal transplants of embryonic mesencephalon in rats — 161

E. M. Grasbon-Frodl, N. Nakao, O. Lindvall and **P. Brundin**	Phenotypic development of the human embryonic striatal primordium: a study of cultured and grafted neurons from the lateral and medial ganglionic eminences	171
N. Nakao, E. M. Grasbon-Frodl, H. Widner and **P. Brundin**	Antioxidant treatment protects striatal neurons against excitotoxic insults	185
K. Mawatari, Y. Yasui, K. Sugitani, T. Takadera and **S. Kato**	Reactive oxygen species involved in the glutamate toxicity of C6 glioma cells via $x\bar{c}$ antiporter system	201
B. Dargent, C. Arsac, N. Tricaud and **F. Couraud**	Activation of voltage-dependent sodium channels in cultured cerebellar granule cells induces neurotoxicity that is not mediated by glutamate release	209
C. Sur, H. Betz and **P. Schloss**	Immunocytochemical detection of the serotonin transporter in rat brain	217
A. Gruart, A. Gunkel, W. F. Neiss, D. N. Angelov, E. Stennert and **J. M. Delgado-Garcia**	Changes in eye blink responses following hypoglossal-facial anastomosis in the cat: evidence of adult mammal motoneuron unadaptability to new motor tasks	233
D. A. Bereiter and **D. F. Bereiter**	*N*-Methyl-D-aspartate and non-*N*-methyl-D-aspartate receptor antagonism reduces Fos-like immunoreactivity in central trigeminal neurons after corneal stimulation in the rat	249
K. O. Aley, D. B. Reichling and **J. D. Levine**	Vincristine hyperalgesia in the rat: a model of painful vincristine neuropathy in humans	259
T. Karhunen, I. Ulmanen and **P. Panula**	Catechol-*O*-methyltransferase in rat sensory ganglia and spinal cord	267
S. Nomura, Y.-Q. Ding, T. Kaneko, J.-L. Li and **N. Mizuno**	Localization of μ-opioid receptor-like immunoreactivity in the central components of the vagus nerve: a light and electron microscope study in the rat	277
M. Tonini, M. Costa, S. J. H. Brookes and **C. M. S. Humphreys**	Dissociation of the ascending excitatory reflex from peristalsis in the guinea-pig small intestine	287

VOLUME 73 NUMBER 2

L. Acsády, D. Arabadzisz and **T. F. Freund**	Correlated morphological and neurochemical features identify different subsets of vasoactive intestinal polypeptide-immunoreactive interneurons in rat hippocampus	299
L. Acsády, T. J. Görcs and **T. F. Freund**	Different populations of vasoactive intestinal polypeptide-immunoreactive interneurons are specialized to control pyramidal cells or interneurons in the hippocampus	317
E. Shink, M. D. Bevan, J. P. Bolam and **Y. Smith**	The subthalamic nucleus and the external pallidum: two tightly interconnected structures that control the output of the basal ganglia in the monkey	335
C. I. Wright and **H. J. Groenewegen**	Patterns of overlap and segregation between insular cortical, intermediodorsal thalamic and basal amygdaloid afferents in the nucleus accumbens of the rat	359
S. Cabib and **S. Puglisi-Allegra**	Different effects of repeated stressful experiences on mesocortical and mesolimbic dopamine metabolism	375
S. Nedergaard and **J. Hounsgaard**	Fast Na^+ spike generation in dendrites of guinea-pig substantia nigra pars compacta neurons	381

J. Engele and **K. Schilling**	Growth factor-induced *c-fos* expression defines distinct subsets of midbrain dopaminergic neurons	397
L. Zecca, T. Shima, A. Stroppolo, C. Goj, G. A. Battiston, R. Gerbasi, T. Sarna and **H. M. Swartz**	Interaction of neuromelanin and iron in substantia nigra and other areas of human brain	407
G. D. Rudolf, C. A. Cronin, G. B. Landwehrmeyer, D. G. Standaert, J. B. Penney Jr and **A. B. Young**	Expression of *N*-methyl-D-aspartate glutamate receptor subunits in the prefrontal cortex of the rat	417
M. Rigby, B. Le Bourdellès, R. P. Heavens, S. Kelly, D. Smith, A. Butler, R. Hammans, R. Hills, J. H. Xuereb, R. G. Hill, P. J. Whiting and **D. J. S. Sirinathsinghji**	The messenger RNAs for the *N*-methyl-D-aspartate receptor subunits show region-specific expression of different subunit composition in the human brain	429
J. C. Milbrandt, R. L. Albin, S. M. Turgeon and **D. M. Caspary**	$GABA_A$ receptor binding in the aging rat inferior colliculus	449
J. I. Nagy, T. Yamamoto, H. Uemura and **W. P. Schrader**	Adenosine deaminase in rodent median eminence: detection by antibody to the mouse enzyme and co-localization with adenosine deaminase-complexing protein (CD26)	459
S. M. Luckman, S. Dye and **H. J. Cox**	Induction of members of the Fos/Jun family of immediate-early genes in identified hypothalamic neurons: *in vivo* evidence for differential regulation	473
J. Buritova, V. Chapman, P. Honoré and **J.-M. Besson**	The contribution of $GABA_B$ receptor-mediated events to inflammatory pain processing: carrageenan oedema and associated spinal c-Fos expression in the rat	487
A. Magnusson, G. Dahlfors and **A. Blomqvist**	Differential distribution of calcium-binding proteins in the dorsal column nuclei of rats: a combined immunohistochemical and retrograde tract tracing study	497
M. Antal, M. Petkó, E. Polgár, C. W. Heizmann and **J. Storm-Mathisen**	Direct evidence of an extensive GABAergic innervation of the spinal dorsal horn by fibres descending from the rostral ventromedial medulla	509
S.-N. Yang, B. Bunnemann, A. Cintra and **K. Fuxe**	Localization of neuropeptide Y Y_1 receptor-like immunoreactivity in catecholaminergic neurons of the rat medulla oblongata	519
P. W. J. Burnet, C. P. L.-H. Chen, S. McGowan, M. Franklin and **P. J. Harrison**	The effects of clozapine and haloperidol on serotonin-1A, -2A and -2C receptor gene expression and serotonin metabolism in the rat forebrain	531
D. A. Tonge, J. P. Golding and **P. R. Gordon-Weeks**	Expression of a developmentally regulated, phosphorylated isoform of microtubule-associated protein 1B in sprouting and regenerating axons *in vitro*	541
M. S. Bush, D. A. Tonge, C. Woolf and **P. R. Gordon-Weeks**	Expression of a developmentally regulated, phosphorylated isoform of microtubule-associated protein 1B in regenerating axons of the sciatic nerve	553
G. Alvarez-Bolado, P. Rodríguez-Sánchez, P. Tejero-Díez, A. Fairén and **F. J. Díez-Guerra**	Neurogranin in the development of the rat telencephalon	565
V. Calaora, G. Chazal, P. J. Nielsen, G. Rougon and **H. Moreau**	mCD24 expression in the developing mouse brain and in zones of secondary neurogenesis in the adult	581

S. Boehm and **S. Huck** — A somatostatin receptor inhibits noradrenaline release from chick sympathetic neurons through pertussis toxin-sensitive mechanisms: comparison with the action of α_2-adrenoceptors — 595

D. Drenckhahn, M. Holbach, W. Ness, F. Schmitz and **L. V. B. Anderson** — Dystrophin and the dystrophin-associated glycoprotein, β-dystroglycan, co-localize in photoreceptor synaptic complexes of the human retina — 605

C. Boudreau-Larivière, H. Sveistrup, D. J. Parry and **B. J. Jasmin** — Ciliary neurotrophic factor: regulation of acetylcholinesterase in skeletal muscle and distribution of messenger RNA encoding its receptor in synaptic versus extrasynaptic compartments — 613

ERRATUM — 623

VOLUME 73 NUMBER 3

LETTERS TO NEUROSCIENCE

R. Wagner and **R. R. Myers** — Schwann cells produce tumor necrosis factor alpha: expression in injured and non-injured nerves — 625

T. Uz, P. Giusti, D. Franceschini, A. Kharlamov and **H. Manev** — Protective effect of melatonin against hippocampal DNA damage induced by intraperitoneal administration of kainate to rats — 631

K. M. Buller, S. Khanna, J. R. Sibbald and **T. A. Day** — Central noradrenergic neurons signal via ATP to elicit vasopressin responses to haemorrhage — 637

S. Kirischuk, V. Matiash, A. Kulik, N. Voitenko, P. Kostyuk and **A. Verkhratsky** — Activation of P_2-purino-, α_1-adreno and H_1-histamine receptors triggers cytoplasmic calcium signalling in cerebellar Purkinje neurons — 643

RESEARCH PAPERS

M. Salter, P. J. L. M. Strijbos, S. Neale, C. Duffy, R. L. Follenfant and **J. Garthwaite** — The nitric oxide–cyclic GMP pathway is required for nociceptive signalling at specific loci within the somatosensory pathway — 649

J. Sandkühler, A.-C. Treier, X.-G. Liu and **M. Ohnimus** — The massive expression of c-Fos protein in spinal dorsal horn neurons is not followed by long-term changes in spinal nociception — 657

M. D. Gee, B. Lynn and **B. Cotsell** — Activity-dependent slowing of conduction velocity provides a method for identifying different functional classes of C-fibre in the rat saphenous nerve — 667

N. J. Dun, T. Miyazaki, H. Tang and **E. C. Dun** — Pituitary adenylate cyclase activating polypeptide immunoreactivity in the rat spinal cord and medulla: implication of sensory and autonomic functions — 677

S. Kwak, M. Miyamoto, M. Ishida and **H. Shinozaki** — Neurotoxicity of (2S,1′R,2′R,3′R)-2-(2,3-dicarboxycyclopropyl)glycine, a potent agonist for class II metabotropic glutamate receptors, in the rat — 687

G. Schmid, G. Bonanno and **M. Raiteri** — Functional evidence for two native $GABA_A$ receptor subtypes in adult rat hippocampus and cerebellum — 697

J. V. Martin, D. B. Williams, R. M. Fitzgerald, H. K. Im and **P. F. Vonvoigtlander** — Thyroid hormonal modulation of the binding and activity of the $GABA_A$ receptor complex of brain — 705

Q. Chen, C. L. Veenman and **A. Reiner**	Cellular expression of ionotropic glutamate receptor subunits on specific striatal neuron types and its implication for striatal vulnerability in glutamate receptor-mediated excitotoxicity	715
C. Cepeda, Z. Li and **M. S. Levine**	Aging reduces neostriatal responsiveness to *N*-methyl-D-aspartate and dopamine: an *in vitro* electrophysiological study	733
K. S. Hsu, C. H. Yang, C. C. Huang and **P. W. Gean**	Carbachol induces inward current in neostriatal neurons through M_1-like muscarinic receptors	751
J. M. Deniau, A. Menetrey and **S. Charpier**	The lamellar organization of the rat substantia nigra pars reticulata: segregated patterns of striatal afferents and relationship to the topography of corticostriatal projections	761
K. Yamada, S. Goto, M. Yoshikawa and **Y. Ushio**	GABAergic transmission and tyrosine hydroxylase expression in the nigral dopaminergic neurons: an *in vivo* study using a reversible ischemia model of rats	783
D. R. Stevens, U. Gerber, R. W. McCarley and **R. W. Greene**	Glycine-mediated inhibitory postsynaptic potentials in the medial pontine reticular formation of the rat *in vitro*	791
M. Serafin, P.-P. Vidal and **M. Mühlethaler**	Electrophysiological study of nucleus gigantocellularis neurons in guinea-pig brainstem slices	797
R. K. Kaater, J. A. Strauss and **M. D. Sauro**	Comparison of neurons in rat medulla oblongata with Fos immunoreactivity evoked by seizures, chemoreceptor, or baroreceptor stimulation	807
D. Carić and **D. J. Price**	The organization of visual corticocortical connections in early postnatal kittens	817
P. Kasa, S. Karcsu, I. Kovacs and **J. R. Wolff**	Cholinoceptive neurons without acetylcholinesterase activity and enzyme-positive neurons without cholinergic synaptic innervation are present in the main olfactory bulb of adult rat	831
J. Milin, M. Demajo and **V. Todorović**	Rat pinealocyte reactive response to a long-term stress inducement	845
M. Tallent, M. A. Dichter and **T. Reisine**	Evidence that a novel somatostatin receptor couples to an inward rectifier potassium current in AtT-20 cells	855
V. Carpentier, H. Vaudry, E. Mallet, A. Laquerrière, J. Tayot and **P. Leroux**	Anatomical distribution of somatostatin receptors in the brainstem of the human fetus	865
D. M. White and **K. Mansfield**	Vasoactive intestinal polypeptide and neuropeptide Y act indirectly to increase neurite outgrowth of dissociated dorsal root ganglion cells	881
X. Pang, R. Letourneau, J. J. Roznіecki, L. Wang and **T. C. Theoharides**	Definitive characterization of rat hypothalamic mast cells	889

VOLUME 73 NUMBER 4

LETTERS TO NEUROSCIENCE

X. Bi, V. Chang, E. Molnar, R. A. J. McIlhinney and **M. Baudry**	The C-terminal domain of glutamate receptor subunit 1 is a target for calpain-mediated proteolysis	903
M. S. Airaksinen and **M. Meyer**	Most classes of dorsal root ganglion neurons are severely depleted but not absent in mice lacking neurotrophin-3	907

Y. Ohga, U. Zirrgiebel, S. Hamnér, T. M. Michaelidis, J. Cooper, H. Thoenen and **D. Lindholm**	Cell density increases Bcl-2 and Bcl-x expression in addition to survival of cultured cerebellar granule neurons	913
RESEARCH PAPERS		
S. Khan, E. Grogan, R. Whelpton and **A. T. Michael-Titus**	N- and C-terminal substance P fragments modulate striatal dopamine outflow through a cholinergic link mediated by muscarinic receptors	919
C. Gauchy, M. Desban, J. Glowinski and **M. L. Kemel**	Distinct regulations by septide and the neurokinin-1 tachykinin receptor agonist [Pro^9]substance P of the *N*-methyl-D-aspartate-evoked release of dopamine in striosome- and matrix-enriched areas of the rat striatum	929
L. Ferraro, W. T. O'Connor, X.-M. Li, R. Rimondini, L. Beani, U. Ungerstedt, K. Fuxe and **S. Tanganelli**	Evidence for a differential cholecystokinin-B and -A receptor regulation of GABA release in the rat nucleus accumbens mediated via dopaminergic and cholinergic mechanisms	941
X. M. Xie and **J. Garthwaite**	State-dependent inhibition of Na^+ currents by the neuroprotective agent 619C89 in rat hippocampal neurons and in a mammalian cell line expressing rat brain type IIA Na^+ channels	951
M. Kabbaj, M. Le Moal and **S. Maccari**	Hippocampal type I and type II corticosteroid receptors are differentially regulated by chronic prazosin treatment	963
V. Helfer, C. Deransart, C. Marescaux and **A. Depaulis**	Amygdala kindling in the rat: anxiogenic-like consequences	971
A. Mouatt-Prigent, J. O. Karlsson, Y. Agid and **E. C. Hirsch**	Increased m-calpain expression in the mesencephalon of patients with Parkinson's disease but not in other neurodegenerative disorders involving the mesencephalon: a role in nerve cell death?	979
J. L. Carroll, D. Gozal, D. M. Rector, G. Aljadeff and **R. M. Harper**	Ventral medullary neuronal responses to peripheral chemoreceptor stimulation	989
T. S. S. Schilhab and **G. R. J. Christoffersen**	Role of protein synthesis in the transition from synaptic short-term to long-term depression in neurons of *Helix pomatia*	999
G. R. J. Christoffersen and **T. S. S. Schilhab**	Synaptic long-term depression alters recovery from, and frequency dependency of, short-term depression in *Helix pomatia*	1009
M. J. Stebbing and **J. C. Bornstein**	Electrophysiological mapping of fast excitatory synaptic inputs to morphologically and chemically characterized myenteric neurons of guinea-pig small intestine	1017
K. N. Browning and **G. M. Lees**	Myenteric neurons of the rat descending colon: electrophysiological and correlated morphological properties	1029
J. Fahrenkrug and **J. Hannibal**	Pituitary adenylate cyclase activating polypeptide innervation of the rat female reproductive tract and the associated paracervical ganglia: effect of capsaicin	1049
A. Shmigol, N. Svichar, P. Kostyuk and **A. Verkhratsky**	Gradual caffeine-induced Ca^{2+} release in mouse dorsal root ganglion neurons is controlled by cytoplasmic and luminal Ca^{2+}	1061
I. Gavazzi, R. E. M. Canavan and **T. Cowen**	Influence of age and anti-nerve growth factor treatment on the sympathetic and sensory innervation of the rat iris	1069

P. K. Stys and **R. M. LoPachin Jr**	Elemental composition and water content of rat optic nerve myelinated axons during *in vitro* post-anoxia reoxygenation	1081
C. Nolte, T. Möller, T. Walter and **H. Kettenmann**	Complement 5a controls motility of murine microglial cells *in vitro* via activation of an inhibitory G-protein and the rearrangement of the actin cytoskeleton	1091
S. Ilschner, C. Nolte and **H. Kettenmann**	Complement factor C5a and epidermal growth factor trigger the activation of outward potassium currents in cultured murine microglia	1109
G. D. Borasio, A. Markus, R. Heumann, C. Ghezzi, A. Sampietro, A. Wittinghofer and **V. Silani**	Ras p21 protein promotes survival and differentiation of human embryonic neural crest-derived cells	1121
D. V. Pow, W. Baldridge and **D. K. Crook**	Activity-dependent transport of GABA analogues into specific cell types demonstrated at high resolution using a novel immunocytochemical strategy	1129
S. Lovestone, C. L. Hartley, J. Pearce and **B. H. Anderton**	Phosphorylation of tau by glycogen synthase kinase-3β in intact mammalian cells: the effects on the organization and stability of microtubules	1145
G. Bing, M. McMillian, H. Kim, K. Pennypacker, Z. Feng, Q. Qi, L.-Y. Kong, M. Iadarola and **J. S. Hong**	Long-term expression of the 35,000 mol. wt Fos-related antigen in rat brain after kainic acid treatment	1159